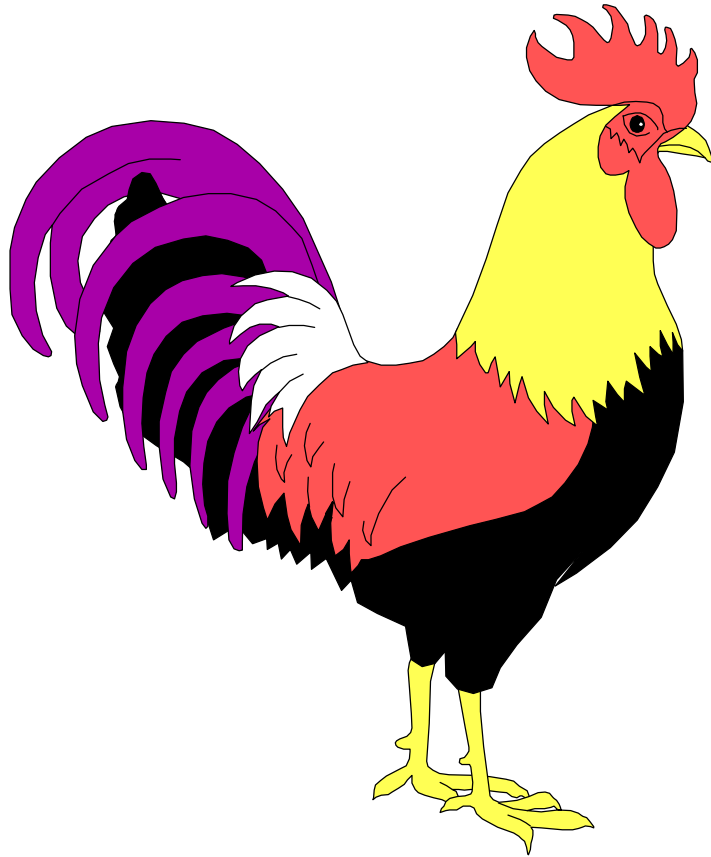


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OBJECTIVES

After a student completes Module 4, he or she will be able to accomplish the following:

1. Identify the intent of Congress when poultry and poultry products are condemned because of disease.
2. Give at least two reasons why FSIS employs veterinarians to carry out the provisions of the “Act” related to postmortem inspection.
3. Without the aid of reference:
 - Identify postmortem authority and responsibility of those groups listed below:
 - Food Inspectors: Grades 5, 7, 8, and 9
 - Veterinarians: Grades 9, 11, and 12
 - W.A.E.-Intermittents
 - Cross-Licensed USDA Graders
 - List five (5) basic requirements plant management must meet in order to prepare carcasses in a uniform and consistent manner for postmortem inspection.
 - List eight (8) facility requirements plant management must provide at the postmortem inspection station.
 - List the categories on FSIS Form 6000-16 (lot tally sheet) and give the criteria applicable to each category for postmortem condemnation.
 - List seven (7) causes for liver condemnation.
 - List four (4) causes for kidney condemnation.
 - List the criteria needed for condemnation of a carcass part related to fractures and luxations.
 - List four (4) duties of the inspector’s helper or trimmer required at the postmortem inspection station.
 - List five (5) factors to consider when FSIS is requiring line speed adjustment.

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- List the facilities required for off-line salvage procedures conducted at other than the postmortem inspection station.
 - Describe how salvage procedures for airsacculitis and contamination are different.
 - List and describe three (3) acceptable methods to maintain positive control over condemned poultry product.
 - List four (4) acceptable methods for disposing of condemned poultry product.
 - List two (2) acceptable methods for disposing of poultry products condemned for biological residues.
 - List the major steps to follow when performing streamlined poultry postmortem inspection technique on young chickens.
 - List two (2) appropriate methods for supervising work of postmortem line inspectors.
4. Given copies of completed FSIS Form 6000-16's and a single lot, execute and indicate distribution of the following reports:
- Summary FSIS Form 6000-16
 - FSIS Form 6000-21
 - FSIS Form 9061-2
5. Given a description of postmortem findings of a carcass or its parts, describe the disposition of that carcass or part and use the regulations and/or manual to support that disposition.
6. List two (2) disposition actions a food inspector may take when a carcass is presented with no viscera.

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INTRODUCTION

“It is the intent of Congress that when poultry and poultry products are condemned because of disease, the reason for condemnation ... shall be supported by scientific fact, information, or criteria, and ... condemnation under this act shall be achieved through uniform inspection standards and uniform applications ... “

Those words were taken from a declaration of policy ... section three of the Poultry Inspection Act. The fact that condemnation must be on a scientific basis is part of the reasoning behind employing veterinarians. Uniform inspection standards and dispositions are to be applied during the postmortem inspection of each carcass. Food inspectors working under the supervision of the veterinarian use approved methods for performing postmortem inspection.

The food inspector passes the wholesome, condemns the unwholesome, and retains the questionable carcasses for veterinary review. The veterinarian is responsible for making uniform dispositions on carcasses.

In this manner, the policy of the Congress to provide for the inspection of poultry and poultry products and otherwise regulate the processing and distribution of such articles is ensured.

All FSIS personnel have certain responsibilities and authority. Food inspectors range from GS-5 to GS-9.

The GS-5 has the authority to pass the normal and is generally allowed to condemn the obviously unwholesome carcasses. He or she usually works with an inspector of a higher grade to acquire a good basic understanding of postmortem inspection as determined by the supervisor. The GS-5, generally, only gives instructions to the helper. The inspector remains at the GS-5 level or grade as a probationary employee for one year. After satisfactory completion of one year ... the employee will be promoted to the grade of GS-7.

When inspectors reach Grade GS-7, they are generally considered to have acquired sufficient expertise to work as competent postmortem line inspectors. They also have occasional floor duties including antemortem and operational sanitation, moisture control, packing room procedures, and so forth. In the role of inspector, the GS-7 retains borderline or questionable carcasses for veterinary review and seeks advice and information about other duties he/she is called on to perform.

The GS-8 has the same postmortem responsibilities and authority as the GS-7 plus more responsibilities on a day-to-day basis. The GS-8 grade of inspector will generally be found when there are six or more line inspectors.

The GS-9 is the same as the GS-7 and GS-8 inspectors, except the GS-9 is usually assigned to small plants as the only inspector and usually has a veterinary supervisor whom patrols the plant. The GS-9 still holds questionable carcasses for veterinary review.

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Veterinary medical officers usually begin with Grade GS-9 or GS-11. The GS-9 and the GS-11 inspect and make final dispositions on carcasses retained and have other responsibilities related to plant operations. The GS-9 and GS-11 VMO's supervise and guide subordinate poultry inspectors in carrying out their responsibilities.

The GS-12 has the same authority and responsibility as a GS-9 or GS-11 plus added responsibilities, such as supervising the GS-9 or GS-11 assigned to the plant and also supervising at least four food inspectors. If two GS-12's are assigned to a plant, only one of them is the inspector-in-charge (IIC) of the plant. That position is usually reserved for the day shift veterinarian.

Another type of FSIS personnel is the "while actually employed", or WAE intermittent employee. This type of inspector is not entitled to all the benefits of a full-time government employee such as sick leave or annual leave. The WAE is usually called to work to cover scheduled leave or when an emergency occurs, and is basically assigned to postmortem inspection.

Still another type of FSIS employee involved with postmortem inspection is the cross-licensed USDA grader. Sometimes a grader who has been trained for postmortem inspection is utilized to cover a postmortem inspection position in emergencies or to help give breaks in isolated plants with one inspector who otherwise would not get a break.

PLANT MANAGEMENT RESPONSIBILITIES

This particular portion of the postmortem module is divided into two parts. The first part will be a discussion of carcass preparation for postmortem inspection. The second part will cover the facility requirements at the postmortem inspection station. Both of these areas of consideration involve plant management accepting its responsibilities if carcasses are to receive official postmortem inspection.

- Carcass preparation for postmortem inspection. The proper presentation of carcasses for postmortem inspection involves uniform and consistent feather removal, feet removal, opening of carcasses, evisceration, and shackling.

The presence of feathers on carcasses at postmortem inspection is not significant. A carcass that has been scalded and passed through a picking machine will have sufficient feather removal for postmortem inspection. Inspectors should not direct carcasses to be hung back or the line speed to be reduced because of feathers.

Generally, the feet are removed at the hock joints for purposes of inspection for *Synovitis*. Washing the cut surface of hocks is not allowed until postmortem inspection is complete. Otherwise pathological exudate could be removed or obscured. There are a limited number of exceptions in requiring proper feet removal.

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Plant management must make every effort to minimize the occurrence of contaminating the opening of the carcass in preparation for evisceration. The modified J-cut is the opening cut most processors use, although the bar-cut is used by some processors.

Sanitation and consistency are important for a properly drawn carcass. Traditionally, viscera must be completely withdrawn, left suspended by natural attachments, and arranged consistently to the left or right side.

With increasing frequency modern poultry slaughter plants are using automatic equipment on the eviscerating line. Often, the equipment is complex and requires careful and regular adjustment for consistently proper function. It is the responsibility of plant management to maintain the machinery so that it works properly.

The plant may use one of several methods available for suspending carcasses in the shackles. The plant may use a two-point or a three-point suspension depending on the plant's facilities and local preference. Carcasses must be presented at the postmortem inspection station shackled in a consistent manner.

The shackles must be identified on lines that have more than one inspector. They may be either color code or mechanically separated (as in the case of selectmatic devices which "kick out" carcasses automatically). The latter helps reduce fatigue by taking "the search factor" out of postmortem inspection.

- Facilities requirements at the postmortem inspection station.

Several types of facilities are needed at postmortem inspection stations so that inspection duties can be performed properly. The required facilities vary slightly depending upon the method of inspection used at the plant. Presently, FSIS officially recognizes four poultry postmortem inspection methods. These are Traditional Inspection, Streamlined Inspection System (SIS), New Line Speed Inspection System (NELS), and New Turkey Inspection System (NTIS).

Plant management is required to provide these facilities at the postmortem inspection station.

- Space

The amount of space required for the inspector and helper varies, depending upon the inspection method. If enough space is not available for the inspector and helper, then the IIC, circuit supervisor, and plant management need to implement corrections. The recommended space for inspector and helper is not always adequate. Some plants need more.

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- Lighting

Lighting requirements also vary between inspection methods.

The minimum lighting requirements are:

Traditional Inspection.....	50 footcandles
Streamlined Inspection System (SIS).....	200 footcandles
New Line Speed Inspection System (NELS).....	200 footcandles
New Turkey Inspection System (NTIS).....	200 footcandles

Other factors as important as the quantity of footcandles are the quality and direction of light. Light should not cause color changes on the inspected carcasses and should be shadow-free. Light with a minimum color-rendering index of 85 is mandatory with SIS, NTIS, and NELLS.

- Handwashing facilities.

Water for handwashing with a minimum temperature of 65° F must be available to the inspectors working at the postmortem inspection station.

- Condemned containers.

Generally there are two types of condemned containers at the postmortem inspection station. One type is for parts and one is for the whole carcass. These containers must be leak-proof and properly marked, indicating “U.S. Condemned Product” in legible letters that are at least two inches high.

- Holder for FSIS form 6000-16

The plant uses this device to hold the lot tally sheet or FSIS Form 6000-16 so that it is conveniently located for the plant helper to record dispositions as instructed by the USDA postmortem inspector.

- Hangback racks

The primary purpose of the hangback rack is to retain questionable carcasses for veterinary review and disposition. The racks can also be used for carcasses designated as salvage, improper presentation, etc.

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- Other facility requirements.

The NELS, NTIS, and SIS inspection systems specify facilities in addition to those already mentioned. An adjustable platform is required at each inspection station. Reinspection stations must be provided at both the prechill and postchill locations.

In general, most poultry plants want to cooperate. In fact, many plants have more facilities than are required, to insure the least amount of task interference for the inspector and helper.

CARCASS DISPOSITION

First, the postmortem inspector must make a decision about the wholesomeness of each carcass inspected. If the carcass is wholesome, it is allowed to continue down the line.

If the carcass is wholesome except for a localized disease condition, it is allowed to continue unrestricted after removal of the affected areas. The diseased portion that was removed is handled as any other condemned material.

If the carcass is considered unwholesome, the entire carcass is condemned.

The final consideration for carcass disposition involves questionable carcasses that require further examination. Borderline or questionable carcasses are placed on the hangback or retain rack pending further review. When the inspector is undecided about the proper disposition of a carcass, the helper is notified to place the carcass on the hangback or retain rack. The veterinarian can then review the carcass before making a final disposition. The carcasses will be condemned, passed, or passed after removal of diseased tissue.

The next time such a carcass is encountered, a correct disposition can be made without retaining carcass. Uniformity in dispositions of carcasses results when the veterinarian and the food inspector work as team.

Before moving to the categories of condemnable conditions encountered in poultry postmortem inspection, an effort will be made to explain the philosophy utilized in making carcass dispositions. The philosophy of carcass disposition is based on the interpretation of an interrupted disease process. Dispositions are made on carcasses based on the stage of disease development and the resolution of the disease or processes at the time of slaughter. If a disease process exists in the live animal, the pathogenesis of the disease stops at the time of slaughter, but the lesions of the disease will remain. Our responsibility is to evaluate and interpret the pathological lesions present after the animal is slaughtered and prepared for postmortem inspection.

Some factors that must be considered follow.

At the time of slaughter, is there evidence that the disease process is being resolved? Or, that it is remaining about the same? Or, has it developed into an irreversible stage? If it is being

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resolved, it will show evidence of healing; for example, connective tissue walling off lesions, minimal evidence of inflammation, and a return to functional activity of the tissues.

If systemic involvement is determined to be present in the disease process, the carcass is unwholesome and shall be condemned. If only a part or a localized area of the carcass is affected, then the remainder can be accepted as being wholesome after removal of the affected unwholesome portion of the carcass.

The regulations specifically tell us what to do when encountering some disease conditions.

The criteria for condemnation in each category on FSIS Form 6000-16 (Lot Tally Sheet) is as follows:

- Tuberculosis.

Avian tuberculosis is caused by the bacterium *Mycobacterium avium* and usually is chronic, slowly developing disease. It has largely been eradicated in domestic poultry in the U.S. but is still found occasionally in mature birds.

Birds with TB develop a wasting condition characterized by loss of weight and diarrhea. At postmortem examination their carcasses are typically emaciated. Gray to yellow, firm nodules (tubercles) are often scattered along the intestines and may be found in various organs, especially the liver and spleen. Lungs generally have no gross lesions although, in advanced cases, any organ or tissue can be involved.

Avian tuberculosis can infect humans but is not considered to be a serious threat to people with healthy immune systems.

One definitive lesion is all that is required to condemn a poultry carcass for tuberculosis.

- Leukosis.

This condemn category includes several neoplastic diseases caused by various viruses. All produce tumors in domestic poultry and present similar gross lesions.

The age and species of bird affected by leukotic tumors suggests which viral agent is involved. However, only a presumptive diagnosis can be made based on this information since there is considerable overlap.

The most common manifestations of the leukosis complex are: 1) Marek's disease, which is an important disease only in young chickens less than six months of age; 2) Lymphoid leukosis, most common in semi-mature and mature chickens; 3) Reticuloendotheliosis, which occasionally produces liver and spleen tumors in turkeys and, rarely, runting disease in

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chickens; and 4) Lymphoproliferative disease, which affects turkeys, producing a greatly enlarged spleen as well as tumors in other organs.

There is no evidence that viruses of the leukosis complex are pathogenic for humans.

One definitive lesion is all that is needed to justify condemnation of the carcass. Definitive means a lesion that can be defended grossly as a lesion of leukosis.

- **Septicemia/toxemia.**

Septicemia is a disease state caused by pathogenic (disease producing) microorganisms in the blood that have produced systemic change within the bird. Systemic change affects the body as a whole rather than localized portions of it.

In septicemia the normal functions of the bird's organ systems are disrupted. The cells of the body deteriorate. This deterioration may be very rapid when highly virulent microorganisms are the cause or it may be more gradual if less virulent ones are involved.

In some cases, the changes produced by the septicemia will overwhelm the bird and result in its death. In other cases, the bird's immune system will overcome the causative organism before irreversible damage occurs and it will recover.

Septicemia is manifested by a group of clinical signs, not all of which will be present in a single carcass. Therefore, judgement plays an important part in correct dispositions for this condemn category.

Septicemic carcasses frequently have petechial (pinpoint) hemorrhages on the heart, liver, kidneys, muscles, and serous membranes. Blood-tinged exudates are often present in the body cavity. The liver and spleen are often swollen and hyperemic (contain an excess of blood) since they remove most of the bacteria from the circulating blood. Kidneys may appear swollen and congested. The skin of septicemic birds may be hyperemic.

Rapid onset of muscle wasting follows sepsis. Some of this is caused by anorexia (loss of appetite) but most skeletal muscle breakdown is the result of changes in muscle metabolism that trigger protein degradation.

Depending upon the cause and duration of septicemia, carcasses at the time of slaughter may be hyperemic, cyanotic, anemic, dehydrated, and edematous or exhibit some combination of these signs. No single carcass will show all of these signs.

Toxemia, poisoning caused by the absorption of toxins produced by infective organisms, shows signs similar to those of septicemia. Frequently both conditions exist simultaneously.

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Septicemia/toxemia is commonly referred to as sep/tox. If a carcass shows systemic change, it is condemned. This category is a catchall for those carcasses that have septicemia, toxemia, or a combination of septicemia-toxemia.

- **Synovitis**

Synovitis may be caused by a number of organisms, most often members of the genus *Mycoplasma*. Injury and nutritional deficiencies can also lead to synovitis. The result is acute or chronic inflammation of the membranes lining one or more joints and tendon sheaths.

Joints are often noticeably swollen and may contain exudate of variable amounts and consistency. The liver, kidneys, and spleen may be swollen, and the liver is sometimes stained green from bile stasis. Lesions vary depending upon whether or not the condition has been confined to the joints without affecting the overall health of the bird or has overwhelmed the bird's defense mechanisms and caused systemic changes.

A carcass that has synovitis and also shows signs of sep/tox or systemic change is condemned. In other words, a carcass with synovitis is not condemned unless it also shows systemic change.

- **Tumors.**

Several types of tumors besides those of the leukosis complex affect domestic poultry. Some of the more common ones include squamous cell carcinomas, adenocarcinomas, leiomyomas, and fibromas.

Squamous cell carcinomas are skin tumors found in young chickens. Adenocarcinomas generally are located on abdominal organs and are common in older birds. Leiomyomas are most often identified in the oviduct of fowl, and fibromas may develop in any connective tissue. They are also more common in older birds. Numerous other types of tumors occur in domestic poultry but at a low frequency.

There is no evidence that any of these types of tumors are a health threat to humans.

Condemn a carcass for tumors if there is "gross evidence" of metastasis present. The general rule is : one tumor - trim and pass; two or more tumors - condemn if there is evidence of metastasis. Exclude leukosis from the tumor category. Leukosis is in a separate category.

- **Bruises.**

If bruises are the reason for systemic change in a carcass, then the carcass is condemned and recorded under the bruises category.

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- Cadaver.

Poultry that die from causes other than slaughter are condemned under the cadaver category. Generally, the bird is not dead at the time of entering the scald vat and, upon submersion into the scald water, drowns.

- Contamination.

Carcasses that are contaminated to the extent that valid inspection cannot be made are condemned. An example would be a carcass contaminated with bile or feces to the extent that the inspector cannot determine whether the carcass is wholesome. Carcasses that fall into open sewers or evisceration troughs are condemned under the contamination category.

- Overscald.

Carcasses that are cooked are condemned. Many times these carcasses will also be machine-mutilated by picking machines.

- Airsacculitis.

Numerous microorganisms can produce Airsacculitis, inflammation of air sacs. Often more than one infectious agent is identified in an outbreak. Members of the genus *Mycoplasma* are frequently involved. Birds are more susceptible to infections of the air sacs when they are under stress. Vaccination, other disease, poor nutrition, insanitary conditions, and poor ventilation may all be contributing factors.

The lesions of airsacculitis can be acute or chronic. Their appearance can range from slight clouding of air sac membranes and small amounts of watery exudate to thickened, opaque membranes and large amounts of thick, white-to-cream colored and/or cheesy exudates. The exudates can be confined to the air sacs and their diverticuli, or they may be found in other areas if the air sac membranes are ruptured.

Pneumonia, pericarditis, and perihepatitis might be present. In some cases all portions of the respiratory tract (nasal passages, sinuses, trachea, bronchi, lungs, and air sacs and their diverticuli) are affected. In other cases little involvement beyond the air sacs is evident. Systemic change can .

One organism that can cause airsacculitis in birds, *Chlamydia psittaci*, can cause disease in humans. Outbreaks of this disease are sporadic and generally occur in turkeys rather than chickens. The turkey industry watches for any evidence of chlamydiosis so infected flocks generally are identified and treated before slaughter. However, VMO's must stay alert for any poultry that showing signs suspicious for this disease.

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Carcasses are condemned if airsacculitis occurs in conjunction with systemic change. An airsacculitis condemnation is also justified by the presence of extensive airsacculitis. In the latter instance, the amount of exudate present prevents a valid evaluation of the wholesomeness of the carcass. If the exudate cannot be effectively removed, the carcass is also condemned.

- Other

In the “other” category we have several subgroups. Examples are:

- Inflammatory Process (IP) - If the condition is generalized, the carcass is condemned.
- Plant rejects - If the plant elects to reject a carcass for inspection, it is condemned.
- Carcasses condemned because there are no viscera available to inspect - Disposition of no-viscera carcasses is determined by the veterinarian in charge and is based upon flock incidence of disease.
- Xanthomatosis - If the condition is generalized, the carcass is condemned.
- Parasites – If the infestation is generalized, the carcass is condemned.

Only condemnation of carcass parts is required for some localized conditions. If there is an unwholesome portion or part that can be effectively removed, the remainder of the carcass would be considered wholesome. Some organs or parts that may be condemned because of localized conditions without condemning the whole carcass are:

- Livers

Livers that have fatty degeneration are condemned. Livers that have extensive petechiae or hemorrhaging must be condemned. A liver that is inflamed, has an abscess, has a necrotic area, or is affected with necrosis, is condemned. Cirrhotic livers, livers that have a single non-leukotic tumor, or livers with cysts are also condemned. Discolorations in the liver due to a biliary system disorder or postmortem changes result in the liver being condemned. Livers are condemned if there has been contamination from intestinal content or noxious materials.

- Kidneys

When there is renal or splenic pathology or hepatic lesions that cause liver condemnation, the kidneys must be removed.

Pathological conditions requiring condemnation of all viscera also require the kidneys to be removed.

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Anytime there is airsacculitis, the kidneys must be removed when the carcass or its posterior portion is salvaged.

- Fractures.

A fracture with no associated hemorrhage need not be trimmed and can be passed. But a fracture with a hemorrhage of the affected part must be trimmed. A compound fracture, one in which the skin is broken, requires trimming whether there is hemorrhage present or not.

- Luxations.

A luxation is a simple disjointment with no skin broken and no hemorrhage. The condition need not be trimmed. Hemorrhage extending into the musculature requires trimming or slitting/washing out. Simple redness of skin does not require any action.

To maintain a good production rate, one properly trained plant employee should be designated for each inspector as the inspector's helper to:

1. Remove condemned birds or parts from the line and place them in the designated U.S. condemn containers.
2. Remove retained carcasses from the line and place them in the appropriate area of the retain rack, designated for veterinary review.
3. Remove from the line carcasses designated for approved offline salvage and place them in the appropriate area of the retain rack.
4. Record condemned carcasses in the appropriate blocks of the inspector's worksheet (FSIS Form 6000-16) as directed by the inspector.
5. Mark carcasses, at the inspector's direction, for trim or salvage.
6. Trim off abnormalities.
7. Assist as much as possible to allow the inspector to devote full attention to postmortem inspection. The inspector and the helper must work as a team. The inspector may use various methods to give directions to the helper. In some cases hand signals are given, but in other situations directions are given by voice.

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LINE SPEEDS

FSIS does not require line speed adjustments due to the number of feathers on carcasses presented for postmortem inspection. Plant management is responsible for line speed adjustments related to ready-to-cook poultry.

FSIS uses the following considerations to decide if a line speed adjustment is needed.

- Poultry class and the size of the birds in the class
- presentation errors, such as viscera on the wrong side or not presented in a consistent manner
- disease incidence
- plant personnel's ability to accomplish eviscerating procedures sanitarily with a minimum of contamination
- physical limitations of inspectors
- plant facilities.

Maximum line speeds established by FSIS will be permitted on the eviscerating line in the poultry plant *when optimum conditions exist*. When less than optimum conditions are present, a line speed adjustment is required. The IIC is responsible for directing plant management to reduce the line speed to the degree necessary to permit adequate inspection and insure a smooth flow of product.

When the IIC is satisfied that the situation that made the line speed reduction necessary has been corrected, he or she will permit resumption of the previous line speed.

SALVAGE OF CARCASSES AWAY FROM THE POSTMORTEM INSPECTION STATION

This section covers off-line knife salvage for contamination and airsacculitis, and will discuss facility requirements, and the procedures to be used with this type of salvage. The establishment must have a written procedure for each type of salvage planned. In each case the procedures must be accomplished sanitarily, adequate facilities and personnel must be available, there must be continuous product flow without pileup or delay, and the salvaged parts must be chilled immediately.

Facilities required at the salvage station are: adequate space located in the eviscerating area; a retain rack designed to prevent cross-contamination; a trough or table sloped and properly drained; a singer, if there is not one in the picking room; containers for chilling the product; a spray nozzle

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with proper fittings to clean carcasses; a facility for washing hands, tools, etc., such as a gooseneck; and a minimum of 50 footcandles of light.

Contamination. When a carcass is designated for knife salvage because of body cavity contamination, the plant is required to remove the viscera and hang the carcass by the neck in a designated area on the retain rack; transfer the carcass to the salvage station and rehang it by the neck; wash external carcass surfaces thoroughly before any cutting; and properly trim the carcass without cutting into the body cavity or opening cut surfaces. Usually what you see saved during routine salvage of contaminated carcasses are both wings, both legs, and the breast muscle, including the deep and superficial pectoral muscles.

Airsacculitis. Special attention must be given salvaged carcasses with airsacculitis because of the complexity of the interclavicular air sac and the associated diverticuli. The interclavicular air sac is assumed to be inflamed and the carcass is salvaged accordingly.

The salvaged carcass with airsacculitis is usually hung by the legs to distinguish it from a salvageable contaminated carcass. Other steps, such as removing the viscera, transferring the carcass to a salvage station, etc., that are used to prepare a contaminated carcass for salvaging, are also followed for carcasses with airsacculitis.

The following portions of the carcasses are usually salvageable: the wings (minus the portion containing the humeral bones), the legs, and the breast muscle. On the breast muscle, that area around the first wing joint is condemned and the deep pectoral muscle anterior to breastbone bursa is condemned. All the rest is eligible for salvage.

REPROCESSING OF CARCASSES AWAY FROM THE POSTMORTEM INSPECTION STATION

Carcasses that have their body cavities contaminated with digestive tract contents may be rendered unadulterated by prompt washing, trimming, and/or vacuuming instead of knife salvage. The procedure for removing digestive tract content is called reprocessing. The same standards apply to reprocessing as to any other approved off-line procedure: adequate facilities and trained personnel must be available and the procedure must be accomplished sanitarily without pileup or delay.

Facilities required at the reprocessing station are: adequate space in the eviscerating room or a suitable adjacent area; a retain rack designed to prevent cross-contamination; a trough or table that is sloped and properly drained; containers for chilling product; a knife rack or stand; conveniently located hand-washing facilities; at least 50 footcandles of light; a spray nozzle with proper fitting for cleaning carcasses. Water containing 20 ppm available chlorine for rinsing all reprocessed carcasses.

When a carcass is designated for reprocessing because of body-cavity contamination, the plant is required to remove the viscera and hang the carcass in a designated area on the retain rack; transfer the carcass to the reprocessing station and suspend it to prevent contamination during reprocessing;

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remove the crop; wash the external surface thoroughly; and remove contaminants by trimming, vacuuming, and/or washing. Any contamination of cut surfaces must be removed by trimming. After the contaminants are removed, the carcass must be thoroughly rinsed with water containing at least 20 ppm available chlorine. Plant personnel must measure and record the chlorine concentration at least once a day. After examination by plant personnel, reprocessed carcasses must be made available for reinspection by the FSIS inspector.

If retain racks at the USDA inspection station or reprocessing station are filled, inspectors in charge should allow plants the option of disposing of contaminated carcasses or adjusting the production rate. Carcasses disposed of by the plant should be recorded under “other” as a plant reject. Inspectors in charge should not set a limit on the number of carcasses that may be held at the inspection or reprocessing stations but rather should be guided by good sanitary practices.

CONDEMNED MATERIALS

FSIS personnel assigned to a plant are responsible for maintaining positive control over condemned product.

There are several ways to accomplish positive control. For example, FSIS personnel may have the condemned material under direct observation, or the condemned material may be secured in a properly marked container that is locked or sealed with an FSIS device, or the condemned material may be denatured or decharacterized using an approved method.

Methods that are approved for disposing of condemned product are as follows:

- Steam treatment (which is not used often).
- Incineration (which is also not used often).
- Chemical denaturing with crude carbolic acid or kerosene, fuel oil, or used crankcase oil, or phenolic disinfectant.
- Any other substance or method, such as approved dyes, that will denature the poultry product.
- Carcasses and parts of carcasses condemned for biological residues shall be burned or buried under the supervision of an inspector.

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SUPPLEMENT

1. Worksheet Exercise

Fill in the blanks.

Official references needed to accurately complete the worksheet statements are listed. The following abbreviations will be used to indicate reference:

PPIA: Poultry Products Inspection Act as amended.

Reg.: Poultry Products Inspection regulations, Part 381

FSIS DIR: FSIS Directive 6210.1, Rev 1.

Reg. 381.76(a)

A post-mortem inspection shall be made on a bird-by-bird basis on all poultry eviscerated in an official establishment. No viscera or any _____ thereof shall be _____ from any poultry in any official establishment, except at the time of postmortem inspection, unless their _____ with the rest of the carcass is maintained in a manner satisfactory to the inspector until such inspection is made. Each carcass to be eviscerated shall be _____ so as to expose the organs and the body cavity for proper examination by the inspector and shall be prepared _____ after inspection as ready-to-cook poultry.

Reg. 381.36(c)

Facilities for the Streamlined Inspection System (SIS). The following requirements for lines operating under SIS are in addition to the normal requirements to obtain a grant of inspection. The requirements for SIS in § 381.76(b) also apply.

(1) The following provisions shall apply to every inspection station:

(i) The conveyor line shall be _____ for the entire length of the inspection station. The vertical distance from the _____ of the shackles to the top of the adjustable platform (paragraph(c)(1)(iv) of this section) in its _____ position shall not be less than 60 inches.

(iii) Selectors or _____ shall be installed in establishments with two inspection stations on a line so each inspector will receive birds on 12-inch centers with no _____ birds to impede inspector. The selector must move the bird to the edge of the trough for the inspector and establishment helper. The selectors must be _____, steady, and _____ in moving the birds parallel and through the

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inspection station. Birds shall be selected and released smoothly to avoid _____ when entering the inspection station.

(iv) Each inspector's station shall meet the requirements specified in § 381.53. The station shall have a platform that is _____ and can be safely accessed by the inspector. The platform shall be designed so that it can be easily and rapidly adjusted for a minimum of _____ inches vertically while standing on the platform. The platform shall be a minimum length of 4 feet and have a minimum width of 2 feet; the platform shall be designed with a 42-inch high rail on the back side and with _____ foot bumpers on both sides and front to allow safe working conditions. The platform must have a safe lift mechanism and be _____ enough for the inspector to sit on a stool and to change stations during breaks or station rotation.

(x)(2) The following provisions shall apply only to prechill and postchill _____ stations:

(x)(2)(i) Floor space shall consist of a _____ of 3 feet along each conveyor line and after each chiller to allow carcasses to be removed for evaluation. The space shall be level and protected from all traffic and overhead obstructions.

FSIS Dir. 6210.1, Rev. 1

VI. CATEGORIZING CARCASSES MISSING ALL OR PART OF THE VISCERA

A. Carcasses are to be classified as having "no viscera" if:

1. No _____ parts are present; or
2. Some visceral parts are present, but all _____ "major organs" (heart, liver, _____) are missing.

B. Carcasses are to be classified as "missing part of the viscera" if some visceral parts are present, including at least one _____ organ.

NOTE: For purposes of this classification, _____ or more of the _____ will be considered the same as a whole liver.

VIII. POST-MORTEM DISPOSITION

D. The inspector's helper may assist the inspector in _____ inspection by:

1. _____ carcasses from the line;
2. Marking the FSIS Form 6000-16;

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3. Identifying carcasses; and
4. Trimming defects and abnormalities (_____ time permits as specified in _____ inspection systems).

PPIA Section 4(g)

The term “_____” shall apply to any poultry product under one or more of the following circumstances:

Trainee: Read(1) and (2).

(3) If it consists in whole or in part of any _____, putrid, or decomposed substance or is for any other reason unsound, unhealthful, _____, or otherwise unfit for human food;

(4) If it has been prepared, packed, or held under insanitary _____ whereby it may have become contaminated with filth, or whereby it may have been rendered injurious to health;

(5) If it is, in whole or in part, the product of any poultry which has died otherwise than by _____;

(6) If its _____ is composed, in whole or in part, of any poisonous or deleterious substance which may render the contents injurious to health;

Read (7) and (8).

Reg. 381.77

Each carcass, including all parts thereof, in which there is any lesion of disease, or other condition which might render such carcass or any part thereof _____ and with respect to which a final decision cannot be made on first examination by the inspector, shall be held for further examination. The identity of each such carcass, including all parts thereof, shall be maintained until a _____ examination has been completed.

Reg. 381.78(a)

At the time of any inspection under this subpart each carcass, or any part thereof, which is found to be adulterated shall be _____, except that any such articles which may be made _____ adulterated by reprocessing, need not be so condemned if so reprocessed under the supervision of an inspector and thereafter found to be not adulterated.

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Reg. 381.79

Passing of Carcasses and Parts.

Each carcass and all organs and other parts of carcasses which are found to be not adulterated shall be _____ to human food.

Reg. 381.80

General;

The carcasses or parts of carcasses of all poultry _____ at an official establishment and found at the time of postmortem inspection, or at any subsequent inspection, to be affected with any of the diseases or conditions named in other sections in this subpart shall be _____ of in accordance with the section pertaining to the disease or condition. Owing to the fact that it is _____ to formulate rules for each specific disease or condition and to designate at just what stage a disease process results in an adulterated article, the decision as to the disposal of all carcasses, organs or other parts not specifically covered by the regulations, or by instructions of the Administrator issued pursuant thereto, shall be left to the _____, and if the inspector in charge is in doubt concerning the disposition to be made, specimens from such carcasses shall be forwarded to the Inspection Service _____ for diagnosis.

FSIS Dir. 6210.1

VIII. POSTMORTEM DISPOSITION

A. A veterinary inspector-in-charge is _____ for disposition accuracy. Under close veterinary supervision, inspectors may _____ poultry carcasses, parts, or organs obviously _____ or unfit for human food. Any carcass showing signs of an abnormal physiological state but obviously condemnable _____ for the veterinary medical officer, who shall make a judgment on the disposition as required by regulations.

B. Condemnations are to be recorded on FSIS Form 6000-16, Poultry Inspection Lot Tally Sheet.

C. The disposition guidelines area as follows:

1. For a carcass(es) classified as “missing part of the viscera”, the inspector shall:
 - a. pass the carcass(es) as wholesome;
 - b. _____ the questionable carcass(es) and/or _____ for veterinary disposition; or
 - c. _____ the carcass(es) per disease condition.

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2. For carcass(es) classified as having _____, the inspector shall hang back the carcass(es) for veterinary _____ until the IIC can:

a. determine if the entire _____ of “no viscera” carcass(es) should be retained due to the existence of pathological/_____ conditions; or

b. direct the on-line inspectors to pass carcasses in that lot, if pathological/unwholesome conditions _____.

Reg. 381.91

Contamination.

Carcasses of poultry contaminated by volatile oils, paints, poisons, gases, _____ water in the air sac system, or other substance which render the carcasses _____ shall be condemned. Any organ or other part of a carcass which has been accidentally _____ in the course of processing shall be condemned, and if the whole carcass is affected, the whole carcass shall be condemned.

Reg. 381.92

Overscald.

Carcasses of poultry which have been overscalded, resulting in a _____ appearance of the flesh, shall be condemned.

Reg. 381.81

Tuberculosis.

Carcasses of _____ with tuberculosis shall be condemned.

Reg. 381.83

Septicemia or toxemia.

Carcasses of poultry showing evidence of any septicemic or toxemic disease, or showing evidence of an _____ physiologic state, shall be condemned.

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Reg. 381.86

Inflammatory Processes.

Any organ or other part of a carcass which is affected by an inflammatory process shall be condemned and, if there is evidence of general _____ disturbance, the whole carcass shall be condemned.

Reg. 381.87

Tumors.

Any organ or part of a carcass which is affected by a tumor shall be condemned and when there is evidence of _____ or that the general condition of the birds has been affected by the size, position, or nature of the tumor, the whole _____ shall be condemned.

Reg. 381.89

Bruises.

Any _____ of a carcass which is badly bruised shall be condemned and, if the whole carcass is _____ as a result of the bruise, the whole carcass shall be condemned. Parts of a carcass which show only slight reddening from a bruise may be _____ for food.

Reg. 381.90

Cadaver.

Carcasses of poultry showing evidence of having died from _____ other than _____ shall be _____.

Reg. 381.84

Airsacculitis.

Carcasses of poultry with evidence of _____ involvement of the air sacs with airsacculitis or those showing airsacculitis along with _____ changes shall be condemned. Less affected carcasses may be passed for food after _____ removal and condemnation of all affected tissues including the _____.

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Reg. 381.93

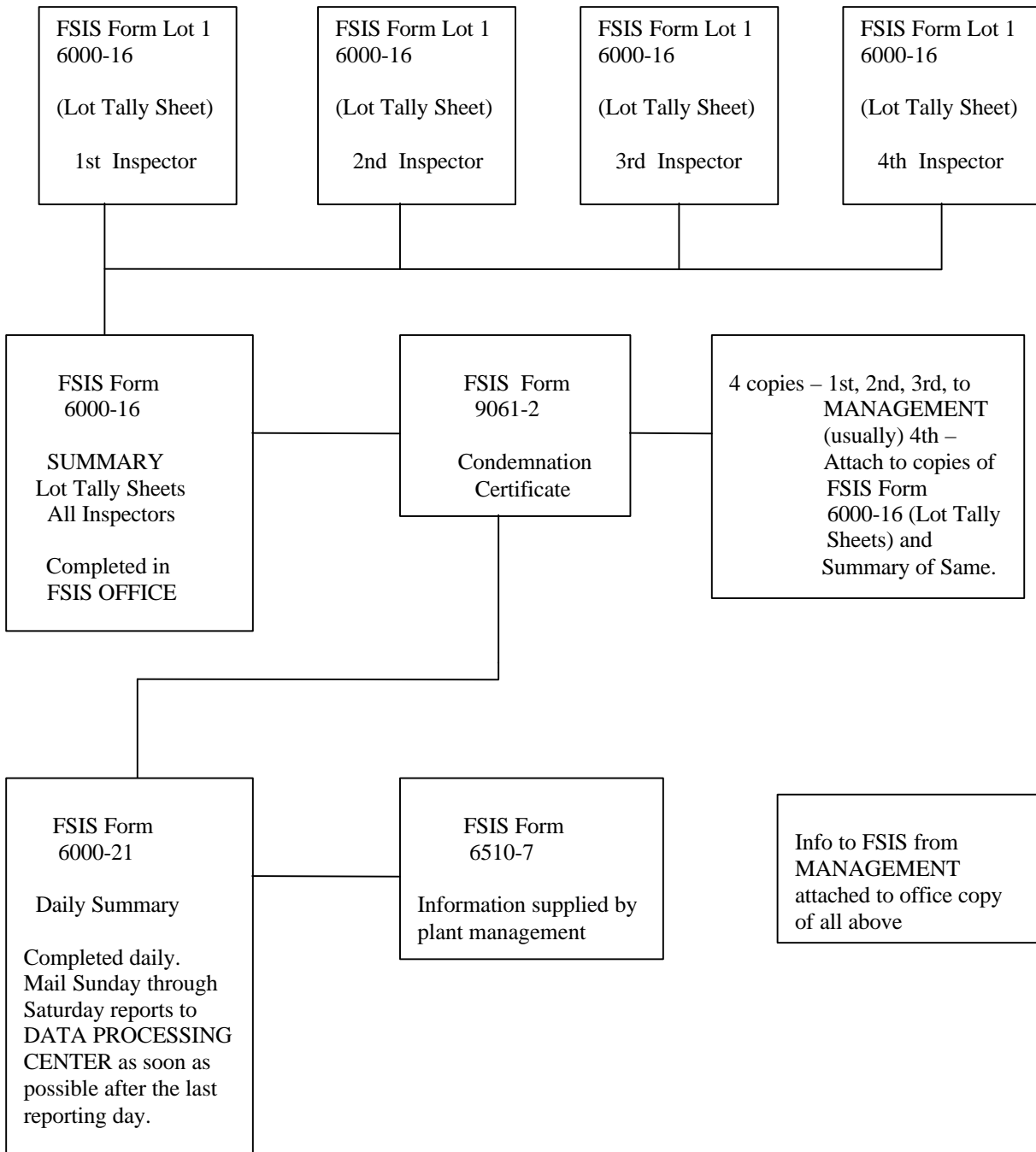
Decomposition.

Read 381.93 in your Regulations.

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FLOW CHART FOR POSTMORTEM REPORTS

Example for a Plant with 4 line Inspectors



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2. Scenario:

Four food inspectors have submitted their FSIS Form 6000-16's, Lot Tally Sheets, for one lot of poultry. The plant management has submitted to you the FSIS Form 6510-7. Poultry Lot Information, for the same lot. Use the next few pages of this supplement to:

1. Prepare a summary FSIS Form 6000-16 for the lot.
2. Prepare an FSIS Form 9061-2 for the lot.
3. Prepare an MP Form 513.
4. In the space below, indicate the distribution and/or filing location of the following forms:

FSIS Form 6000-16 _____
_____.

FSIS Form 9061-2 _____

FSIS Form 6510-7 _____

MP Form 513 _____

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3. View the following poultry postmortem slides.

PART I
Airsacculitis—Off-line Salvage Slides

- Slide 1. First cut at humerus-ulna-radius articulation (The diverticuli from the interclavicular air sac are not distal to this point) can salvage ½ wing for food.
- Slide 2. Removal of crop for preparation of further cuts to be made.
- Slide 3. Completion of cropping operation – exposing the breast muscle.
- Slide 4. Transverse cut made across the breast muscle to point of the keel. Dotted line represents the condemned area. This includes all muscle tissue out to the stump of the wing.
- Slide 5. The transverse cut is made deeper.
- Slide 6. Transverse cut completed. Area within dotted circle out to stump of the wing is condemned part.
- Slide 7. The anterior portion of the superficial pectoral muscle or the outer layer of breast muscle is permitted to be saved provided the trimmer does not include contaminated area approximately one inch in all directions from the first wing joint.
- Slide 8. Continued removal of superficial pectoral muscle. Notice the area within the dotted line is avoided.
- Slide 9. The deep pectoral breast muscle from point of the original transverse cut is salvaged distally for food. The proximal portion is condemned.
- Slide 10. The entire leg may be removed and salvaged for food. Notice the body cavity proper is not incised.
- Slide 11. Trimmer removing leg in proper manner.

PART II
Contamination – Off-line Salvage Slides

- Slide 12. Position of carcass for contamination salvage. The entire wing is allowed to be salvaged.
- Slide 13. The entire leg is allowed to be salvaged.

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Slide 14. The entire leg is removed without entering the body cavity proper.

Slide 15. Removal of crop necessary to prevent contamination of breast muscle tissues when they are removed.

Slide 16. Trimmer is removing superficial and deep pectoral muscles. These are allowed to be salvaged.

Slide 17. Completion of breast muscle salvage.

Slide 18. The neck may be salvaged.

PART III
Postmortem Conditions Slides

Slide 1. Tuberculosis (TB) in liver – Characteristics of the circled lesions are: irregular border, coalescing of smaller lesions, heterogeneous appearance; lesions are usually seen in mature classes, rare in young chickens.

Slide 2. TB – liver, spleen, lung, and intestine, general pattern of spread.

Slide 3. TB – lesions in intestine, liver and spleen; notice the absence of fat tissue around gizzard.

Slide 4. TB – spleen; crushing of spleen may be required in mature classes of poultry.

Slide 5. TB – fowl spleen.

Slide 6. Leukosis – skin, young chicken; feather follicles, affected areas circled.

Slide 7. Leukosis – skin; young chicken drumstick.

Slide 8. Leukosis – close up of previous slide.

Slide 9. Leukosis – skin of drumstick – feather follicles; characteristics of skin leukosis as seen on this side; enlarged feather follicles, loss of normal pattern, loss of normal morphology, coalescing of follicles as they are affected with neoplastic tissue.

Slide 10. Leukosis – skin; traumatized.

Slide 11. Leukosis – liver; lesions within circle: characteristics of pearl color, homogeneous appearance.

Slide 12. Leukosis – liver; multiple lesions.

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Slide 13. Leukosis – sex organs (testicles); larger testicle is grossly affected.

Slide 14. Leukosis – sex organ (ovary); grossly enlarged.

Slide 15. Leukosis – sex organ (ovary); chalk-like appearance, grossly enlarged.

Slide 16. Leukosis – bone; normal bone in center; top and bottom bones are enlarged in the shaft portion as compared to the narrow middle bone.

Slide 17. Leukosis – bone, cross section of the tibia on the left has a marked enlarged cortex, has broken smoothly, and contains pale marrow. Normal bone on right has broken with a rough, jagged surface.

Slide 18. Leukosis – liver; big liver disease. Liver on the left is affected with a proliferative, diffuse type of leukosis; normal liver on right.

Slide 19. Sep/tox – heart and liver from a sep/tox carcass as compared with a heart and liver from a normal carcass.

Slide 20. Sep/tox – liver with multiple hemorrhages and a leukotic tumor in circle.

Slide 21. Sep/tox – carcass with viscera exposed; note the dark-colored, depleted fat covering on the viscera; obvious carcass changes include loss of subcutaneous fat, cyanosis, dehydration, visceral hyperemia.

Slide 22. Sep/tox – carcass on the left shows hyperemia, cyanosis, and dehydration as compared to the normal carcass on the right.

Slide 23. Synovitis – enlarged hock joints of bird on the right. Compare to normal hock joints of bird on the left.

Slide 24. Synovitis – hock joint exposed; inflammation.

Slide 25. Synovitis – hock joint; exudate present.

Slide 26. Synovitis – affected hock on left as compared to normal hock on right.

Slide 27. Tumors – multiple tumors; ovarian adenocarcinoma.

Slide 28. Tumors – metastatic; multiple tumors on intestines and mesentery.

Slide 29. Tumors – breast area.

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Slide 30. Tumors – skin; multiple squamous cell carcinomas.

Slide 31. Tumors – skin squamous cell carcinoma; lesion circled.

Slide 32. Bruise – localized; trim.

Slide 33. Bruise – could be trimmed.

Slide 34. Bruises – three carcasses: carcass on left, local; middle carcass, normal; carcass on right, bruises of systemic nature.

Slide 35. Cadavers – carcass on right, normal; compare to carcass on left, which is a cadaver. Notice the color of skin and condition of the viscera.

Slide 36. Overscald – normal carcass on left as compared to overscald carcass on right, which has a cooked appearance. The skin slips easily and the breast muscle has a cooked appearance.

Slide 37. Overscald – viscera from normal carcass on left as compared to viscera from overscald carcass on right. Notice the pale appearance of the overscalded liver and viscera.

Slide 38. Air sac – normal interclavicular, close up.

Slide 39. Air sac – pointers in normal thoracic air sacs, close up.

Slide 40. Air sac – interclavicular – thoracic:

A. Pointing to interclavicular air sac at the junction of where fat is deposited and where there is no fat on the interclavicular air sac membrane.

I. Points to clear portion or “window” of interclavicular air sac membrane.

Large dotted circle – visible outline of interclavicular air sac.

Little dotted circle – left thoracic air sac.

II. Points to the normal appearance of the air sac membrane.

Slide 41. Airsacculitis:

Top arrow: affected interclavicular air sac with exudate.

Bottom arrow: affected thoracic air sac; exudate throughout the membrane.

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Slide 42. Airsacculitis – interclavicular and thoracic both affected. Notice the thickening and presence of exudate in the membrane.

Slide 43. Airsacculitis:

A. Abdominal air sac affected; exudate and thickening of membrane visible.

I. Exudate visible on other viscera.

Slide 44. Airsacculitis – left abdominal air sac; left kidney inside dotted lines.

Slide 45. Airsacculitis – abdominal; caseous exudate visible within body cavity.

Slide 46. Airsacculitis – abdominal; exudate characteristic of a fungal infection.

Slide 47. Salpingitis – inflammation of the oviduct; lesions inside dotted circle.

Slide 48. Salpingitis – cross section of oviduct containing exudate.

Slide 49. Inflammatory process; knee joint puffed up.

Slide 50. Inflammatory process – leg incised; arrow points to exudate.

Slide 51. Inflammatory process – exudate in posterior abdominal area.

Slide 52. Xanthomatosis – skin condition, cause unknown.

Slide 53. Xanthomatosis – extensive skin involvement.

Slide 54. Xanthomatosis – carcass incised.

Slide 55. Parasites – subcutaneous mite. Arrow points to nodules, which are the result of parasites.

Slide 56. Parasites – subcutaneous mites. Lesions are the result of mite on tissue under the skin.